

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Houston

6310 Rothway Street

Houston, TX 77040

Tel: (713)690-4444

TestAmerica Job ID: 600-107025-1

Client Project/Site: CB&I Federal Services LLC . . – Houston

For:

CB&I Federal Services LLC

10777 Westheimer Road

Suite 170

Houston, Texas 77042

Attn: Leroy Cassidey

Dean A. Joiner

Authorized for release by:

2/24/2015 11:09:44 AM

Dean Joiner, Project Manager II

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



Table of Contents

Cover Page	1
Table of Contents	2
Method Summary	3
Sample Summary	4
Client Sample Results	5
Definitions/Glossary	6
QC Sample Results	7
QC Association Summary	8
Lab Chronicle	9
Certification Summary	10
Chain of Custody	11
Receipt Checklists	13

Preliminary Data

Method Summary

Client: CB&I Federal Services LLC
Project/Site: CB&I Federal Services LLC . . – Houston

TestAmerica Job ID: 600-107025-1

Method	Method Description	Protocol	Laboratory
9040B	pH	SW846	TAL HOU

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Preliminary Data

Sample Summary

Client: CB&I Federal Services LLC
Project/Site: CB&I Federal Services LLC . . – Houston

TestAmerica Job ID: 600-107025-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-107025-4	ST1-021915	Waste	02/19/15 13:35	02/20/15 11:28
600-107025-5	ST6-021915	Waste	02/19/15 13:41	02/20/15 11:28

Preliminary Data

Client Sample Results

Client: CB&I Federal Services LLC
Project/Site: CB&I Federal Services LLC . - Houston

TestAmerica Job ID: 600-107025-1

Client Sample ID: ST1-021915

Lab Sample ID: 600-107025-4

Date Collected: 02/19/15 13:35

Matrix: Waste

Date Received: 02/20/15 11:28

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	0.230		0.0100	0.0100	SU			02/23/15 16:07	1

Client Sample ID: ST6-021915

Lab Sample ID: 600-107025-5

Date Collected: 02/19/15 13:41

Matrix: Waste

Date Received: 02/20/15 11:28

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.24		0.0100	0.0100	SU			02/23/15 16:07	1

Preliminary

Definitions/Glossary

Client: CB&I Federal Services LLC
Project/Site: CB&I Federal Services LLC . . – Houston

TestAmerica Job ID: 600-107025-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

QC Sample Results

Client: CB&I Federal Services LLC
Project/Site: CB&I Federal Services LLC . . - Houston

TestAmerica Job ID: 600-107025-1

Method: 9040B - pH

Lab Sample ID: LCS 600-156549/26

Matrix: Waste

Analysis Batch: 156549

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.010		SU		100	99 - 101

Preliminary Data

QC Association Summary

Client: CB&I Federal Services LLC
Project/Site: CB&I Federal Services LLC . . - Houston

TestAmerica Job ID: 600-107025-1

General Chemistry

Analysis Batch: 156549

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-107025-4	ST1-021915	Total/NA	Waste	9040B	
600-107025-5	ST6-021915	Total/NA	Waste	9040B	
LCS 600-156549/26	Lab Control Sample	Total/NA	Waste	9040B	

Preliminary Data

Lab Chronicle

Client: CB&I Federal Services LLC
Project/Site: CB&I Federal Services LLC . . – Houston

TestAmerica Job ID: 600-107025-1

Client Sample ID: ST1-021915

Date Collected: 02/19/15 13:35

Date Received: 02/20/15 11:28

Lab Sample ID: 600-107025-4

Matrix: Waste

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9040B		1		20 mL	156549	02/23/15 16:07	DAW	TAL HOU

Client Sample ID: ST6-021915

Date Collected: 02/19/15 13:41

Date Received: 02/20/15 11:28

Lab Sample ID: 600-107025-5

Matrix: Waste

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9040B		1		20 mL	156549	02/23/15 16:07	DAW	TAL HOU

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Certification Summary

Client: CB&I Federal Services LLC
Project/Site: CB&I Federal Services LLC . . - Houston

TestAmerica Job ID: 600-107025-1

Laboratory: TestAmerica Houston

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Texas	NELAP	6	T104704223	10-31-15

Analysis Method	Prep Method	Matrix	Analyte
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Preliminary Data

Client Information Client Contact: <u>1000 Cass Dev</u> Company: <u>CB&I Federal Services LLC</u> Address: <u>PO BOX 98519</u> City: <u>Baton Rouge</u> State, Zip: <u>LA 70884</u> Phone: <u>469-446-8408</u> Email: <u>teroy.cassdev@CBIFederalServices.com</u> CB&I Federal Services LLC -- Houston Site: <u>CFS Environmental</u>		Sampler: <u>Daniel Tighe</u> Phone: <u>469-446-8408</u>		Lab PM: <u>Joiner, Dean A</u> E-Mail: <u>dean.joiner@testamericainc.com</u>		Carrier Tracking No(s): <u>600-32414-10868.1</u> <u>21920</u>																									
		Due Date Requested: <u>02-27-2015</u> TAT Requested (days): <u>5 WD Level 2</u>		Analysis Requested <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>Field Filtered Sample (Yes or No)</td> <td>Perform MS/MSD (Yes or No)</td> <td>TCLP VOA</td> <td>TCLP SVOA</td> <td>TCLP Metals RCRA and Na</td> <td>RCI</td> <td>TPH, TOX</td> <td>Total VOA</td> <td>Total SVOA</td> <td>Total Metals + Sulphur + Na</td> <td>TSS, % Water</td> <td>pH</td> <td>Total Number of Containers</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	TCLP VOA	TCLP SVOA	TCLP Metals RCRA and Na	RCI	TPH, TOX	Total VOA	Total SVOA	Total Metals + Sulphur + Na	TSS, % Water	pH	Total Number of Containers													
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Sample Identification		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=tissue, A=air)	Preservation Code:							Spec																		
<u>ST 6-Comp-021915</u>		<u>02.19.2015</u>	<u>1245</u>	<u>G</u>	<u>Sludge</u>	<u>2</u>							<u>2</u>																		
<u>ST 5-Comp-021915</u>		<u>02.19.2015</u>	<u>1245</u>	<u>G</u>	<u>Sludge</u>	<u>2</u>							<u>2</u>																		
<u>Sand-Comp-021915</u>		<u>02.19.2015</u>	<u>1435</u>	<u>G</u>	<u>Solid</u>	<u>2</u>							<u>2</u>																		
<u>ST-1-021915</u>		<u>02.19.2015</u>	<u>1335</u>	<u>G</u>	<u>Liquid</u>	<u>1</u>							<u>1</u>																		
<u>ST 6-021915</u>		<u>02.19.2015</u>	<u>1341</u>	<u>G</u>	<u>Liquid</u>	<u>1</u>							<u>1</u>																		
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input checked="" type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input checked="" type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months																													
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:																													
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:																									
Relinquished by: <u>[Signature]</u>		Date/Time: <u>2/19/2015 1625</u>		Company: <u>CB&I Federal</u>		Received by: <u>[Signature]</u>																									
Relinquished by:		Date/Time:		Company:		Received by: <u>[Signature]</u>																									
Relinquished by:		Date/Time:		Company:		Received by: <u>[Signature]</u>																									
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.:		Cooler Temperature(s) and Other Remarks:																											

Sample Receipt Checklist

Loc: 600

107025

Date/Time Received:

JOB NUMBER:

CLIENT:

CB&I

UNPACKED BY:

DL

CARRIER/DRIVER:

Apple

Custody Seal Present:

☒ YES☐ NO

Number of Coolers Received:

1

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Therm CF	Corrected Temp (°C)
BW	Y / N	Y / N	1.4	549	-0.3	1.1
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				

CF = correction factor

Samples received on ice?

☒ YES☐ NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED:

☒ NO☐ YES

Base samples are > pH 12:

☐ YES ☐ NO

Acid preserved are < pH 2:

☐ YES ☐ NO

pH paper Lot #

Solid / waste samples

VOA headspace acceptable (5-6mm):

☐ YES ☐ NO☒ N/A

Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?

YES NO

☒ YES

COMMENTS:

[Handwritten signature]

Login Sample Receipt Checklist

Client: CB&I Federal Services LLC

Job Number: 600-107025-1

Login Number: 107025

List Source: TestAmerica Houston

List Number: 1

Creator: Sundquist, Sean V

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	549
Cooler Temperature is recorded.	True	1.1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.